AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1.-12. (Cancelled)

13. (Previously Presented) A titanium metal implant comprising a metal substrate for use in a surgical procedure, said implant having a surface layer integral with said metal substrate and incorporating a biocidal metal material, said implant comprising as said surface layer an anodized hard layer including pits in said hard layer, said pits being filled with a softer and more porous material than the hard layer, wherein the softer and more porous material comprises titanium oxide, and wherein the surface layer comprises a surface area, and wherein said pits being of a diameter about 5 microns and said pits occupying between 15 and 20% of the surface area of the surface layer, said pits extending through said hard layer into said metal substrate, said hard layer and said pits including ions of said biocidal metal material as a result of ion exchange, with said more porous material in the pits having absorbed biocidal metal material to a larger extent than said hard layer.

14. (Previously Presented) A titanium metal implant according to claim 13, wherein titanium is present in said substrate at least 75% by weight.

15. (Previously Presented) A titanium metal implant according to claim 14, wherein the titanium is present as pure titanium or as a titanium alloy.

16. (Cancelled)

17. (Previously Presented) A titanium metal implant according to claim 13, wherein an oxide or phosphate matrix is present at said surface layer of said metal substrate, and wherein biocidal metal ions are absorbed into the oxide or phosphate matrix.

18. (Cancelled)

19. (Previously Presented) A titanium metal implant according to claim 17, wherein the biocidal metal ions are selected from the group consisting of: silver, gold, platinum, ruthenium and palladium.

20. (Previously Presented) A titanium metal implant according to claim 13, wherein the hard layer is 0.14 micrometers thick.

21. (Previously Presented) A titanium metal implant according to claim 20, wherein the hard layer includes pits having a diameter of approximately 5 micrometers and depth of approximately 0.4 micrometers.

22. (Cancelled)

23. (Cancelled)

24. (Currently Amended) A method of treating a titanium metal implant comprised of a metal substrate for use in a surgical procedure, said method including the steps of anodising the implant for forming a surface layer integral with said metal substrate, rinsing the anodised implant, and then performing ion exchange so as to incorporate ions of a biocidal metal into the surface layer, characterised in that said method comprises anodising the implant at a voltage above 50 volts for a period of more than ~~at least~~ 30 minutes, so as to generate the surface layer, wherein the anodising generates a dense hard surface layer and also shallow pits in the surface layer which are filled with a somewhat softer and more porous material comprising titanium oxide, wherein the surface layer comprises a surface area, and wherein said pits being of a diameter about 5 microns and occupying between 15 and 20% of the surface area of the surface layer, said pits extending through said hard layer into said metal substrate, such that in the ion exchange step said more porous material in the pits absorbs biocidal metal to a larger extent than said hard layer.

25. (Previously Presented) A method as claimed in claim 24, wherein said biocidal metal is silver.

26. (Cancelled)

27. (Previously Presented) A method as claimed in claim 24 wherein the anodising step uses an electrolyte comprising phosphoric acid.

28. (Previously Presented) A method as claimed in claim 27 wherein the phosphoric acid is of concentration between 5% and 20% by weight.

29. (Previously Presented) A method as claimed in claim 24 wherein the electrolyte comprises chloride ions at a concentration no more than 500 ppm.

30. (Cancelled)

31. (Previously Presented) A titanium metal implant according to claim 19, wherein other elements are present in said surface layer, selected from the group consisting of: copper, tin, antimony, lead, bismuth and zinc.

32. (Cancelled)

33. (Cancelled)